

WHAT IS CLAIMED IS:

1. An exposure apparatus, comprising:
an illumination optical system for
illuminating an original with exposure light from
5 an exposure light source;
a projection optical system for
projecting a pattern, formed on the original, onto
a photosensitive substrate;
a closed or approximately closed casing
10 for accommodating therein at least one of optical
components disposed along a light path of the
exposure light from said exposure light source to
the photosensitive substrate;
purge gas replacing means for supplying
15 a predetermined purge gas into said casing to
replace a gas inside said casing with the purge
gas; and
switching means for changing a supply
amount of the purge gas between an exposure period
20 and a non-exposure period.
2. An apparatus according to Claim 1,
wherein the supply amount of the purge gas in the
exposure period is smaller than that in the non-
25 exposure period.
3. An apparatus according to Claim 1,

wherein the light source is an excimer laser.

4. An apparatus according to Claim 1,
wherein the purge gas is one of hydrogen, helium,
5 nitrogen, and argon.

5. In a purging method for an exposure
apparatus including an illumination optical system
for illuminating an original with exposure light
10 from an exposure light source, and a projection
optical system for projecting a pattern, formed on
the original, onto a photosensitive substrate,
wherein at least one of optical components
disposed along a light path of the exposure light
15 from the exposure light source to the
photosensitive substrate is accommodated in a
closed or approximately closed casing, and wherein
a predetermined purge gas is supplied into the
casing to replace a gas inside the casing with the
20 purge gas, the improvements residing in:

changing the supply amount of the purge
gas between an exposure period and a non-exposure
period.

25 6. A device manufacturing method,
comprising:

exposing a photosensitive substrate by

use of an exposure apparatus as recited in any one of Claims 1 - 4; and

performing a predetermined process to the exposed substrate.